## CLAIMS

1. A method for producing a superconductor having a high copper to superconductor composition (Cu/SC) ratio by cross-sectional area, comprising in sequence the steps of:

(a) preparing by a sequence of operations which include one or more drawing steps, an assembly formed of one or more fine filaments of a superconductor composition or of a precursor component for a superconductor alloy composition, which filaments are embedded in a copper-based matrix; and

(b) without subjecting said assembly to a prior heating step to diffuse an alloying element into said filaments, electroplating the assembly from step (a) with copper to increase the Cu/filament ratio by cross-sectional area in the resulting product, and thereby increase the said Cu/SC ratio to improve the stability of the final superconductor; and

(c) subsequent to step (b) heat diffusing said alloying element into said filaments in the instance where said filaments comprise said superconductor precursor.

2. The method of claim 1, wherein the superconductor comprises NbTi.

3. The method of claim 1, wherein the superconductor comprises $Nb_3Sn$.

4. The method of claim 1, wherein the Cu/filament ratio by area in the product of step (a) is from about 0.5 to 3 and wherein the Cu/SC ratio in the final product resulting from said method is from about 2.0 to 5.0.

5. The method of claim 4, wherein said Cu/filament cross-sectional area ratio in the product of step (a) is from about 0.5 to 1.5.

6. The method of claim 5, wherein the superconductor or precursor component in step (a) is a multifilament wire wherein the Cu/filament cross-sectional area ratio is at least 1.0.

7. The method of claim 5, wherein the superconductor or precursor component in step (a) is a single core wire and the said Cu/filament cross-sectional area ratio in the product of step (a) is from about 0.5 to 1.0.

8. The method of claim 6, wherein said core wire is NbTi.

9. The method of claim 7, wherein said core wire is NbTi.

10. The method of claim 6, wherein said wire is Nb which in step (c) is reacted with Sn contained in said matrix to form $Nb_3Sn$.

11. The method of claim 7, wherein said core wire is Nb which in step (c) is reacted with Sn contained in said matrix to form $Nb_3Sn$.

12. The method of claim 1, wherein the current density used in step (b) is at least 300 amp/$ft^2$.

13. The method of claim 1, wherein the product of step (b) is subjected to further processing.

14. The method of claim 1, wherein the product of step (b) is subjected to a metal working step prior to step (c).